LEARNING STYLE PREFERENCES OF TURKISH LEARNERS OF ENGLISH AT TURKISH UNIVERSITIES AND THE RELATION BETWEEN LEARNING STYLES AND TEST PERFORMANCE

A THESIS
SUBMITTED TO THE FACULTY OF HUMANITIES AND LETTERS
AND THE INSTITUTE OF ECONOMICS AND SOCIAL SCIENCES
OF BİLKENT UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF ARTS
IN THE TEACHING OF ENGLISH AS A FOREIGN LANGUAGE

BY
AYŞUN DİZDAR
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ABSTRACT

Title: Learning style preferences of Turkish learners of English at Turkish universities and the relation between learning styles and test performance
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Thesis Chairperson: Dr. Dan J. Tannacito, Bilkent University, MA TEFL Program
Thesis Committee Members: Dr. Ruth Yontz, Ms. Patricia Brenner, Bilkent University, MA TEFL Program

This study sought to determine the learning style preferences (LSP) of Turkish speakers of English at Turkish universities and to find out if there was a relation between LSP and test performance. There were 152 participants: 86 graduate and 66 undergraduate in the intensive English preparatory school at Istanbul Technical University. An LSP questionnaire developed by Willing (1987) was used to survey the LSP of the participants. The performance of students on English language tests was determined by the Michigan Placement Test.

A descriptive item-by-item analysis of the LSP questionnaire showed that intensive English preparatory school students at Turkish universities prefer to learn English by going out and practicing English. Learning by doing; by conversations, pictures, films, and videos are also high preferences. Studying English alone is the least preferred of all types of activities.

As a result of the survey, the participants were categorized as concrete, analytical, communicative or authority-oriented learners (see Willing, 1987). The relationship between success and LSP was tested by a One-way ANOVA. There were two major hypotheses tested. The first hypothesis was that there were significant differences between the LSP preferences of graduate and undergraduate students. Statistical analysis rejected this hypothesis ($\underline{f}$= 2.11, $\underline{p}$= .99; $\underline{f}$= .023, $\underline{p}$= .80; $\underline{f}$= .77; $\underline{p}$= .41).

The second hypothesis expected that there was no relationship between LSP and success in tests. The analyses confirmed the hypothesis that no significant difference exists between learning style preferences and test performance ($\underline{F}$= 1.23, $\underline{P}$=.82). This implies that students may have similar success rates regardless of the different ways they prefer to learn.

BILKENT UNIVERSITY

INSTITUTE OF ECONOMICS AND SOCIAL SCIENCES

MA THESIS EXAMINATION RESULT FORM

August 31, 1993

The examining committee appointed by the Institute of Economics and Social Sciences for the thesis examination of the MA TEFL student

Aysun Dizdar

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has read the thesis of the student. The committee has decided that the thesis of the student is satisfactory.

Thesis Title	:	Learning style preferences of Turkish learners of English at Turkish universities and the relationship between learning styles and test performance
Thesis Advisor	:	Dr. Dan J. Tannacito Bilkent University, MA TEFL Program
Committee Members	:	Dr. Ruth Yontz Bilkent University, MA TEFL Program
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Elinden gelen tüm olanakları zorlayarak bu master programına katılabilmemi sağlayan İstanbul Teknik Üniversitesi Dil ve İnkılap Tarihi Bölümü Başkanı değerli Profesör Dr. Sayın Murat Dinçmen'e sonsuz teşekkürlerimi ve minnet borcumu belirtmek isterim. Bu master derecesini kendilerine borçluyum.

Karşılaştığım zorlukları yenmeme yardımcı olmak için ellerinden gelen fedakarlığı yapan babam Hüsnü Dizdar'a, dedem Mustafa Asmaz'a, annem Sevim Dizdar'a ve hesaplamalarımda yardımcı olan kardeşim Sıdıka Dizdar'a teşekkürlerimi sunuyorum.

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Bu çok zor ve sorunlu geçen bir yıl boyunca ben Ankara'da iken evinin bir odasını kaybetmeyi göze alarak eşyalarımı evinde benim için bekleten ve her konuda destek olan arkadaşım sevgili Sevgi Alp'e ve aynı şekilde maddi-manevi hiç bir konuda desteğini esirgemeyen arkadaşım sevgili Selma Demir'e minnet borcumu hiç bir zaman ödeyemeyeceğimi belirtmek istiyorum. Ayrıca okutman arkadaşım Dilek Buzcu İnal'a araştırmam dışındaki yardımları için tekrar teşekkür ederim.

İstatistik problemlerimi çözmekte zorlandığım zaman sorunumu çözmeme yardımcı olan ve benim için zaman harcayan Sayın Prof. Hüseyin Leblebici 'ye, ve danışmak için gittiğimde beni reddetmeyip yol gösteren Sayın Doç.

We certify that we have read this thesis and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts.

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MA TEFL Programı'ndaki küçük-büyük her sorunumuza aynı duyarlılıkla yaklaşan ve desteğini ve rahatlatıcı varlığını her zaman hissettiren eşi bulunmaz bir insana, sayın Nevin İnal'a da teşekkür ederim.

Her problemimde koştuğum, manevi desteğini yıl boyunca her zaman sunmuş olan MA TEFL arkadaşım Gülderen Sağlam'a ve Ankara'ya biraz olsun ısınmama yardımcı olan yine MA TEFL arkadaslarım Türküm Cankantan ve Nuray Lük Yılmaz'a da burada teşekkür etmek istiyorum.

Yıl boyunca bana bilgisayar öğretmekle yükümlü olan insanlardan daha çok öğreten, benimle birlikte tüm MA TEFL öğrencilerinin tezleri üzerinde çok büyük emeği bulunan ve bizim için harcadığı emeği hiç bir zaman ödeyemeyeceğimiz Gürhan Arslan'a da teşekkür ederim.

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CHAPTER 1 INTRODUCTION

Background of the Problem

Many ELT teachers have faced students who sit in the classroom and study their grammar books while others are participating in communicative activities, group work and games. Some students never want to stop talking and let others talk during communicative activities while others prefer to listen. Some students usually prefer to ask the teacher questions during grammar exercises because they do not want to sit there silently and do the exercise. The ELT teacher tries to make the silent ones speak more and the structure-oriented ones more communicative and so on. Despite these conflicts, teachers are aware that all students are not content with all types of activities. Rather, they have their own learning style preferences (LSPs) even when they have similar, even identical backgrounds, ages, purposes and belong to the same class for a long time.

Individual differences among language learners, such as their learning style preferences, began to interest SLA researchers in recent years. Factors like language aptitude, motivation, learning strategies and so forth are some of the individual differences that have been studied (Skehan, 1991). Learning styles of language learners have been defined by Reid (1987) as "the perceptual variations among learners in using one or more senses to understand, organize and retain experience" (p. 89). Willing (1988), whose definition will be used in this study, defines learning styles as "any individual learner's natural, habitual, and preferred ways of learning" (p. 1). He explains his definition as "the clear, comprehensible, and coherent set of likes and dislikes, for any given learner" (p. 5). These likes, dislikes and preferences include the psychological characteristics relating to sensory preference, social tendency, and the expectations of the students about the learning situation, about the teacher's behavior, and also about the student's own cognitive behavior.

In Turkey, the preparatory classes of universities are one- or two-year intensive English programs which prepare students for their university education that is mainly or partly in English. In most of these programs, graduate (G) and undergraduate (UG) students attend the same classes in

order to learn English. At Istanbul Technical University (hereafter ITU), where this researcher works as a prep school teacher, there is a different situation. Unlike at all the other universities in this country, this university separates its prep school students into two groups as graduates and undergraduates. The two groups have very similar, almost identical curricula and books. The main difference is that the tests for each group are prepared by different testing offices. In spite of the similarities in their programs, sometimes there seem to be differences between the attitudes of the students in each group towards their books, activities, teacher styles and materials.

Teachers of the two groups often remark that the UG students may hate using some of the course-books which the G students have fun using and consider to be beneficial. Some activities that UG students enjoy doing may be labelled as a waste of time by G students. These, and many other differences in preference between the two groups are frequently discussed by the teachers of the two groups in the teachers' room of the mentioned prep school program. Teachers experience differences while teaching both groups and they usually prefer one or the other group depending upon their own teaching styles. In light of current learning style preference (LSP) research, there are some reasons to believe that these differences are due to differing LSP between the two groups. For example, Reid's research (1987) has shown that there are differences in the LSPs of G and UG students at one university in the USA.

To the surprise of many ELT teachers in Turkey, students who are very active in class, who seem really learning and able to communicate in the target language may sometimes get low grades on tests. Or just the opposite happens and students who are not able to communicate in the target language, who do not join the activities done in the classroom and who do not look as if they are catching up get unexpectedly high grades on the tests. More interestingly, sometimes two students who seem to be at the same level or who seem to have the same learning styles, may get very different grades (Gregorc, 1984).

Purpose

The first purpose of this research is to discover the LSP of EFL students in Turkey. More specifically, it aims to determine and describe the LSPs of the G and UG groups in ITU prep classes and find out if there is a difference between the two or not.

A second goal of this study is to find out if LSP is a determinant of success on language tests and whether the tests are beneficial only for certain individuals because they always tend to do better on tests.

Research Questions and Hypotheses

In language programs, some students give up studying and making an effort to learn or improve their English after attending the programs for some time although they have started with very high motivation. The reverse is also true for other students. This may be due to various reasons. However, sometimes the reasons are that the program may not meet their expectations and may not match their learning styles.

In the programs where attendance is compulsory such as in university prep schools, students get completely demotivated and this may even lead to failure. Students have their own way of learning despite their teachers' teaching styles and the demand of the curricula used in the institution. Individual differences have not been one of the main concerns of the ELT teachers and curriculum developers. Some EFL students in this country might have difficulties because of the fact that teachers have been teaching their own styles despite the learning styles of their students.

Test preparation also fails to take into account individual differences. No matter in what way individual learners prefer to learn, the same questions, and the same standard evaluation are used for all students in language programs in order to decide whether they should be released to their departments or not. There may be a need to find out if tests are more advantageous for learners with certain LSPs. However, this is not what this study hypothesizes.

In light of these problems, this study has three main questions:

1. What are the learning style preferences of graduate and undergraduate students at Turkish preparatory programs (e. g., ITU)?

a) What is the main LSP of all preparatory school students?

b) What are the LSPs of graduate and undergraduate students separately?

2. Are the LSPs of G and UG students as groups significantly different from each other?

3. Is there a relationship between any one LSP and success in English language tests?

a) Do students who get low grades in the test that is given have a common LSP?

To be able to answer these questions, this study will first describe the combined LSPs of the participants and the LSPs of graduate and undergraduate students separately. In addition to this, there are two hypotheses. First, it is hypothesized that (H1) there is a significant difference between the LSP of the UG and G groups. Second, it is hypothesized that (Ho) there is no relationship between any LSP and success on discrete point language tests.

Limitations of the Study

Using a questionnaire to identify learning style preferences is the only way to obtain results that are more generalizable than those obtainable by interviews with students (Willing, 1987). Nonetheless, it may very easily limit the reliability of the results since, with a questionnaire, it is almost impossible to be certain that students have given true answers. Willing discusses the fact that students usually give reliable responses to questionnaires unless they have good reasons to lie.

Whether students can identify their own LSPs accurately is another issue discussed by LSP researchers. Dunn (1983) concludes that students can identify their LSP especially when they have strong reactions to certain activities or items or strong preferences.

Significance

This study hopes to contribute to an understanding of the cultural influence on learning style. Most research on learning style preferences (LSPs) has been done in ESL settings. In those cases, it has been shown that there are differences in the preferred learning styles of learners from different cultures and that different cultures have certain preferred learning styles (Brown, 1987; Reid, 1987; Willing 1987). The current study

is the first LSP research in Turkey and possibly in an EFL setting.

The survey component of this study duplicates Willing's study, which is widely regarded as reliable research. His questionnaire, used in this research, was validated in his study by feedback from teachers and in pilot studies. His learning style categories have been determined from a factor analysis.

This study may prove useful to prep school teachers and administrations since ITU is one of a growing number of prep schools in Turkey. This study is also a good source of information for curriculum developers and materials and test producers at Turkish universities because individual differences in language teaching, such as learning styles are not sufficiently accounted for by ELT teachers and curriculum developers in this country. Several studies (Gregorc, 1984; Hyman & Rosoff, 1984; Smith & Renzulli, 1984) maintain that LSP research should guide teachers to use a variety of activities in classes so that all students can benefit to the same extent from learning.

Finally, although studies of a purported "learning style", namely field-dependence-independence (FD-I), are numerous, no research is available to show whether LSP and test success are related or not. Whether students with any LSP are also successful or unsuccessful on discrete-point language tests was evaluated.

CHAPTER 2 LITERATURE REVIEW

Until recently, individual differences (ID) among learners have not been one of the main concerns of language researchers. It is only since the increase in studies of second language acquisition (SLA) that the study of individual differences has become an important concern in research. Learning styles is a central difference between second language learners. Larsen-Freeman and Long (1991) describe this situation in the following way:

> People have been interested in second language acquisition (SLA) since antiquity, but in modern times much of the research emphasis was in fact placed on language "teaching." Large comparative studies of language teaching methods were conducted. Less ambitious studies focused upon the most efficacious way to teach a particular skill or to sequence structures in a syllabus. The assumption seemed to be that if language teaching methods could be made more efficient, then learning would naturally be more effective. (p. 5)

Studies that try to find the best way to teach all learners depended on what teachers should and should not do to get the best result and the highest ultimate attainment. They hardly emphasized the essential role the learner is playing in this process of acquiring a new language. Larsen-Freeman and Long emphasize the recent nature of studying the role of learner and of "learning" or "acquisition" rather than of teaching.

Traditionally, various theories and research on studying language and people's needs to learn other languages as second or foreign languages has been on the best way to teach people. Many studies sought to find ways of teaching effectively. Various methods of teaching like Audiolingual Approach, Direct Method, and Communicative Approach have been developed, discussed, and applied in various teaching settings and criticized or praised for various reasons (Celce-Murcia, 1991).

Investigating "individual differences" (ID) in SLA, in other words, studying the role of the learner as an individual in the learning process is a new branch in the study of SLA (Larsen-Freeman and Long, 1991; Skehan, 1991). Nonetheless, SLA research contains results that lack comprehensiveness and are even inconsistent.

The study of ID in SLA includes different concepts depending on whose research one examines. For example, Larsen-Freeman and Long (1991) include personal factors such as age and aptitude, social-psychological factors like attitude and motivation, personality factors, cognitive styles, hemisphere specialization, and learning strategies such as ID among the possible causes of differential success among learners. In contrast, Skehan (1991) does not mention social-psychological factors in his discussion of individual differences but discusses aptitude, motivation, learner strategies and learner styles only.

Learning styles is a controversial issue in both L1 and SLA research on individual differences (Brown, 1987; Dunn, 1984; Gregorc, 1984; Larsen-Freeman and Long, 1991; Skehan, 1991; Willing, 1988). Although educational researchers were the first to study the concept of learning styles in L1 studies, second language researchers have joined the debate about the definition of learning styles.

L1 Studies on Learning Styles

The term "learning styles" has been discussed by various L1 researchers. The most recent trend in defining LSP has been to accept it as referring to the ways people learn, or to personality and preference differences rather than as intrinsic abilities that lead to differential success. This allows that learning styles change and are modifiable.

L1 researchers like Hyman and Rosoff (1984), Dunn (1983, 1984), and Gregorc (1984) as well as L2 researchers Reid (1987), and Willing (1987) all cite researchers such as Witkin (1965, 1976), Kolb (1976, 1984), Keefe (1979), and Dunn, Dunn and Price (1979) who first investigated differing styles of learners. The studies of these L1 researchers became the basis of contemporary L1 and L2 researchers and their definitions of learning styles became the major focus of discussion and criticism.

Hyman and Rosoff (1984) discuss different definitions of learning styles and claim that there is no single research that makes a very clear definition. They talk about and criticize the definitions suggested by Dunn, Dunn and Price (1979), Dunn (1983), Dunn and Dunn (1979), Hunt (1979), Gregorc (1979), and Keefe (1979). Hyman and Rosoff criticize definitions that view learning styles as <u>ability</u> or inner characteristics

of learners rather than as the actual action or behavior of learners. They also criticize those definitions that do not offer sufficient dimensions.

Hyman and Rosoff accept Keefe's definition (1979) as the best available despite some deficiencies they mention. They agree with his distinction that: "Learning style and cognitive style have often been used synonymously in the literature although they decidedly are not the same. Learning style, in fact, is the broader term and includes cognitive along with affective and physiological styles" (p. 37). Keefe's definition takes the difference between learning styles and cognitive styles into consideration as well as including three dimensions (cognitive, affective and physiological) of behavior. However, Hyman & Rosoff criticize this definition as well, saying that Keefe does not include any specificity about these behaviors.

Dunn (1984) claims that definitions of learning styles (prior to the mid-70's) concerned with how the mind actually processes information were definitions of cognitive styles rather than of learning styles. Smith and Renzulli (1984) also claim that learning styles are not abilities but only differences among learners. In conclusion, recent definitions of styles are similar to each other in the sense that they do not accept styles as abilities and that they differentiate between cognitive styles and learning styles.

L2 Studies

The way SLA researchers have determined and defined learning styles is similar to that in L1 research. Many researchers have investigated the cognitive styles of learners, such as field-independence, dependence and reflectivity, which are conceived of as intrinsic abilities (Brown, 1987). Similar to recent research in L1, recent studies on LSP claim that the styles of students are not abilities (Willing, 1987). Rather, they are preferences of students and their reactions to their learning environment. They include a cognitive dimension as well as physical and affective dimensions.

Before defining the concept of LSP as used in this study, it is useful to know what it is not. The term LSP may easily be confused with that of "learning strategies." But as mentioned by Brown (1987), there is

a clear distinction between strategies and styles. Brown describes the difference between learning strategies and styles as follows:

> Strategies are specific methods of approaching a problem or task, modes of operation for achieving a particular end, planned designs for controlling and manipulating certain information. They are contextualized "battle plans" that might vary from moment to moment or day to day or year to year. Strategies vary intraindividually; each of us has a whole set of those in sequence for a given problem. . . . Style is a term that refers to consistent and rather enduring tendencies or preferences within an individual. Styles are those general characteristics of intellectual functioning (and personality type, as well) that especially pertain to you as an individual, that differentiate you from someone else. For example, you might be more visually oriented, more tolerant of ambiguity, or more reflective than someone else -- these would be styles that characterize a general pattern in your thinking or feeling. (p. 79)

In other words, learning strategies are specific methods or techniques we consciously apply when we are faced with a problem or learning task, unlike learning styles which are not consciously deployed to direct learning. They are specific to each human-being and are not easily subject to change very easily.

Despite this clear distinction between strategies and styles, there exists a debate on the definition of learning styles, especially on what is to be included in the study of learning styles.

There is a wide range of definitions of cognitive styles and learner styles which, although not always, are mentioned as the same concepts by some researchers. Brown (1987) discusses the concept of cognitive styles without mentioning learning styles. He claims that "the way we learn things in general and the particular attack we make on a problem seem to hinge on a rather amorphous link between personality and cognition; this link is referred to as 'cognitive' style" (p. 84). But he also concedes that cognitive style is not strictly a cognitive matter but mediates between emotion and cognition. Like many conventional learning style discussions, his basic discussion of cognitive styles focuses on FI-D as

well as the concepts of reflectivity-impulsivity, hemisphere specialization and tolerance of ambiguity, which are unobservable mental or cognitive events. Larsen-Freeman and Long (1991) share a similar view of cognitive style. Brown also finds similarities between conclusions drawn in studies of each of these concepts and the ones drawn in FD-I studies.

Larsen-Freeman and Long (1991) discuss studies of FI-D in a section on cognitive styles. They add the concepts of reflectivity-impulsivity, aural-visual, and analytic-gestalt in this discussion but unlike Brown, they talk about brain research separately. Their discussion is similar to Brown's in the sense that it accepts styles as cognitive abilities and sensory models rather than as surface actions or behaviors. The way Brown and Larsen-Freeman and Long define styles fits the conventional definitions in L1 in the sense that they do refer to abilities rather than to personality traits or observable, actual behavior or action.

Some L2 research on learning styles was as unidimensional as were older L1 studies, especially those which focused only on FD-I. In his article on individual differences in SLA, Skehan (1991) does not distinguish learning styles from cognitive styles and does not accept cognitive and learning styles as two separate branches of research. He refers to FI-D studies as the old and one-dimensional way of discussing styles of learners. He introduces more preference-based studies as the new type of styles research.

Reid (1987) cites Keefe's and Dunn and Dunn's definitions of learning styles. She considers "perceptual" learning styles as "a term that describes variations among learners in using one or more senses to understand, organize and retain experience" (p. 89). In determining the LSPs of university ESL students, Reid categorizes style into four sensory groups: auditory, kinesthetic, visual and tactile learners. She determines LSPs by using the inventory developed by Dunn and Dunn (1979) in L1 research. Willing, as discussed below, considers sensory modes only as the first stage in which learners receive input.

Reid's results show that there are significant differences between the LSP of NES and NNES, graduates and undergraduates, males and females. However, different majors were not found to be a factor in determining

one's LSP. The fact that the Reid study has shown differences in learning style preferences between G and UG ESL groups motivates this research for comparable EFL results. As a result, this study also hypothesized that there are differences between the learning styles of G and UG Turkish EFL students in prep classes at Turkish universities.

Adult LSP Research (Australia) by Willing

Willing (1987), whose study this research replicates, is one of the major researchers who have studied LSP. His study uses an original LSP questionnaire and LSP groups devised in his research. He categorizes his participants who were immigrants in Australia into four groups; analytical, concrete, communicative and authority-oriented learners. The current research will also use his categories and his study will be discussed in detail.

Willing discusses his own understanding of styles in detail and explains why he does not accept most of the previous definitions. He first discusses many of the previous L1 research on LSP by Kolb, Dunn, Dunn and Price, Gregorc, and Hunt, and cognitive style research in SLA studies, giving a very detailed explanation of FD and FI. Like recent SLA studies, he criticizes research focused on cognitive styles or mental, invisible cognitive phenomena and says:

> Learning style, on the other hand, seeks to encompass the mental, the physical, and the affective realms, in order to account for individual differences in learning. In practice, cognitive refers to an attributed structure of mind which could well be quite invisible to an observer, or even to the person concerned. Researchers try to uncover this invisible attribute by asking the subject to perform tasks which bear little obvious relation to actual ordinary activities. "Learning style" is much more concrete, and could in fact only be assessed in the context of normal activities. (p. 52)

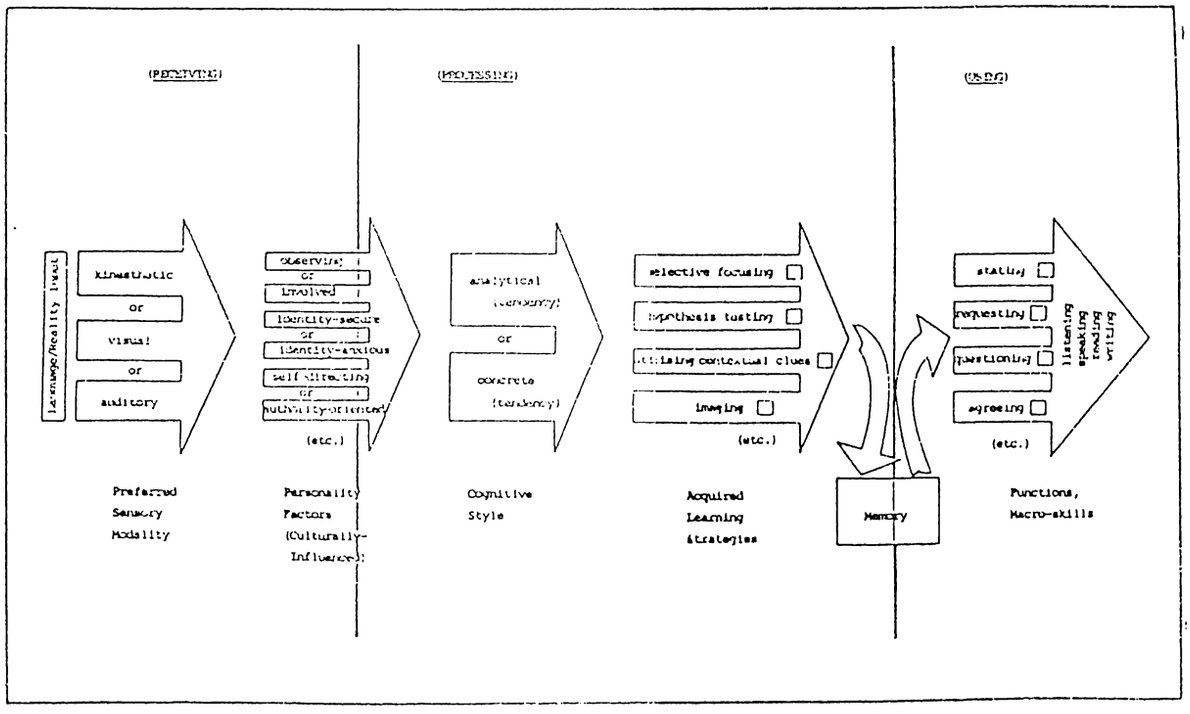
He further claims that cognitive and learning styles share common features but learning style looks directly at the totality of psychological functioning. The latter affects learning and also includes physiological, sensory and affective domains. In this respect, his view that learning style is a broader concept than cognitive style matches the definition by

Keefe and Hyman and Rosoff (1984). He shares one more idea with these L1 researchers: Learning styles are not abilities but just differences among learners.

In order to discuss his view of LSP and to make it clear where he puts other concepts in styles research, Willing produces a three-phase diagram of the language learning context (Willing, 1987; p. 60) (See Figure 1).

Figure 1

Willing's Psychological Model of Learning Style Differences



The first stage is the "receiving" phase in which the receiving of the input takes place through kinesthetic, visual or auditory sensory modes. This is the area investigated by Reid. Overlapping the second phase and the first one, there are "culturally influenced personality factors" such as observing, self-directing. Received information, according to this model, has to pass through this filter of personality factors.

In the "processing" phase, which is "the area of what happens inside the head" (p. 61), he includes cognitive styles and mentions the difference between "analytical" and "concrete." Following that, comes "acquired learning strategies" which are still in the same phase. Willing describes the learning strategies in his model as "the means by which a person

assimilates or digests information and experience in general" (p. 62). They prepare experience for the memory which processes both in the second and third phases, and they also recall information when it is necessary. The last phase is the "using" of the received input by retrieving information when required in a necessary situation as language functions such as agreeing, stating, and so forth, or four skills.

Willing develops his four categories of learning style preferences by means of a factor analysis of the responses given by his participants. He did this analysis to be able to find out the sets of responses that highly correlate with each other. These calculations showed that one dimension and two learning styles would not be sufficient to categorize the LSP of ESL students. Therefore, Willing uses two dimensions to form his four LSP categories. His first dimension is the "abstract conceptualization-concrete experience" dimension. These concepts resemble FI and FD respectively. The second dimension is a personality dimension: "active-passive". Willing discusses the four types of personality these dimensions create and describe the personality characteristics of his own categories in the following way:

1. When abstract conceptualization comes together with active characteristics in Kolb's study, the outcome is a person who is ". . . unemotional, autonomous, analytical, and interested in the efficient application of ideas" (Willing, p. 68). These personality traits resemble the analytical learning style according to Willing.

2. When abstract conceptualization interacts with passive characteristics, the outcome is a person who is " . . . interested in structures, precision of reasoning, following a plan accurately, doing things according to the book" (p. 69). These are the personality traits of an authority-oriented learning style in Willing's framework.

3. The interaction of concrete experience and active characteristics produces ". . . a person who is people- oriented, extraverted, activity involved, who does things by trial-and error method, takes risks, and fundamentally learns through interactions." (p. 69). These personality characteristics correspond to communicative learning style in Willing's research.

4. The interaction of concrete experience and passive characteristics produces ". . . a person who is imaginative, oriented toward sensory experience, has broad-ranging curiosity and interests, and who is essentially involved with direct experience and its representation by means of images" (p. 69). These personality characteristics correspond to concrete learning style.

Willing collects data by means of a questionnaire. Researchers have long discussed the reliability of questionnaires. Many researchers have used self-reporting questionnaires to determine the preferences of students (Dunn, 1983; Green, 1993; Reid, 1987). Dunn (1983) has reported that students can report their preferences accurately especially when they have strong preferences. Willing also suggests that questionnaire responses are reliable unless the participants have good reasons to lie and that questionnaires are the best instruments to be able to make generalizations.

One conclusion Willing draws is that there are cultural differences in terms of preferred learning styles in addition to other conclusions and discussions. Participants in his study belong to a variety of cultures. He discusses each variable in his study (e.g. age, sex, nationality) separately. For example, participants from all cultures liked to study grammar but Arabic students were the ones who preferred this item the most. None of the groups liked to use cassettes at home but the preference of Chinese students for this item was much lower than that of other nationalities.

Both Willing and Reid studies have shown that there are differences in the learning styles of different cultures. This is a conclusion suggested also by Brown who claims that the extent to which people are FI or FD depends upon whether their culture is democratic, industrialized and competitive (p. 86). The current research does not compare cultures but contributes to culturally-oriented studies by establishing the specific LSP of Turkish learners.

Green (in press) is another researcher who studied styles at the preference level. He studied the attitudes of university-level learners of English in Puerto Rico toward the activities in their language classes. He chose the activities teachers believe to be both effective and enjoyable

and asked the students if they also thought the same activities were effective and enjoyable. His results, to his surprise, showed that students agreed with the teachers' ideas of enjoyableness and effectiveness of the selected activities.

In conclusion, current research on learning styles is based more on the preferences of students about teacher behaviors, curriculum, classroom activities, and their own best ways of learning. Of course, the underlying basis of preference of individuals are their cognitive characteristics: how reflective they are, and how FI a person is, and so on. However, recent research focuses on the outcome of these underlying factors as actions, and actual behaviors of learners. It investigates how these factors come to surface as overt reactions of learners to their learning environment. This idea is supported by the findings of Gregorc (1984) who observed the behaviors of learners who showed clear-cut, consistent learning behaviors and then interviewed them in order to find out the underlying reasons for their behaviors. Another conclusion is that, recent definitions of learning styles, both in L1 and L2 studies, do not accept a single style as preferable to all others.

Assumptions of This Study

There is no research that examines the relationship between LSP and success in tests available to the researcher. Most of the research available on the correlation of success with styles or discussions about this concept are based on cognitive styles, mainly on the FD-I dimension of cognitive styles (Abraham, 1985; Brown, 1987; Chapel, 1988; Chapelle and Green, 1992; Chapelle & Roberts, 1986; Hansen, 1984; Skehan, 1991; Stansfield and Hansen, 1983). However, we cannot refer to this research in developing the hypotheses of this study due to the fact that research on the correlation of success and FD-I reveals controversial results and also because the FD-I dimension is different from what this study is measuring.

Students simply learn in different ways although they are in the same teaching environment and have similar backgrounds. This difference among the learners is not only a mental or physical, but also a psychological and affective issue. Learning styles in this study are viewed as the preferences of students in terms of teaching activities, teacher behaviors, and

their own way of learning. In other words, LSPs are not abilities that determine the extent to which a certain type of learner is expected to succeed on certain occasions.

FD-I and success studies have sometimes showed that there is a positive correlation between FI and success. However, FI is accepted as a kind of ability that enhances language learning. LSPs, on the other hand, are specific ways that students like to learn by. LSPs may facilitate learning, but the extent or degree to which each student learns does not depend on their learning style preferences.

Gregorc (1983) observed some students who received A's in their classes. Interestingly, he found extensive variation in the ways they studied. Some students studied regularly while others only before tests. Some students took very detailed notes while others did not, and so forth. This conclusion leads to one of the hypotheses of this study that students with different LSP may have differential success on tests and that LSP is not a determinant of success on tests.

Consistent with these L1 research findings (Gregorc, 1984), this study expects to find that if two students get the same grade on an exam, they may nonetheless learn in different ways. Based on this expectation, we can also suggest that students who learn in the same way may not be equally successful on exams.

CHAPTER 3 RESEARCH METHODOLOGY

Introduction

This study seeks to determine the learning style preferences of Turkish learners. In particular, we investigate the LSP of G and UG students attending the two intensive one-year English preparatory programs at Istanbul Technical University in Turkey. An additional goal of this study is to discover if there is a relationship between success on tests and LSP of the students.

Design

This study is descriptive in the sense that it describes the LSPs of learners. It is also an analytic-deductive study which hypothesizes that there is a significant difference between the learning style preferences of the G and UG students. It is also hypothesized that there is no relationship between the LSP of students at either educational level and their achievement on a discrete point proficiency test.

The independent variable is the LSPs of students measured by a questionnaire. The dependent variable is the test results of the students that is measured by a discrete point English language test. The intervening variables are sex, degree and the additional foreign languages of the students. These variables may be used if post-hoc analysis is needed.

Participants

Participants in this study are 152 intensive English preparatory school students at ITU selected from a population of 1180 prep students by means of a stratified random selection procedure. In the population, the number of students in G and UG programs and also the number of female and male students in each group are not equal. Thus, the first step was to stratify the selection of subjects by finding the proportions of each group to the total, and the proportions of females and males to the number in each group as well as to the total.

The sample size reflected the same proportions in order to be able to represent the whole sample accurately. The subjects were selected by referring to a random number table. The actual sample size was 155 students, which is 14 % of the population. The study utilized 152 students because the responses of three students were discarded. One of these

students left the test very early, reporting that he had responded the questionnaire and the test without reading the questions. The researcher discovered that the two others had not understood the instructions and thus had responded inappropriately to the questionnaire. Of the 152 participants, 66 were at the G level and 86 were at the UG level. Among these, 47 were females: 22 graduates and 25 undergraduates, and 105 were males: 40 graduates and 65 undergraduates. The distribution of gender and educational level of the sample is shown in Table 1.

Table 1

Participants Numbers

	Degree		
Sex	Undergraduates	Graduates	Total
Female	25	22	47
Male	65	40	105
Total	90	62	152

Instruments

Learning Styles Questionnaire

A questionnaire developed by Willing (1987) (See Appendix A), in his AMES (Australian Migrant Education Service of the South Wales) learning styles survey was used by this study to classify the learning styles of students. The original questionnaire included 30 items. However, the last two items were discarded to be sure that the study was appropriate in Turkey. Since the Willing questionnaire was designed for ESL students in Australia, the last two questions were not applicable to EFL students in Turkey. These two questions asked the students if they like to learn by watching, listening to Australians and if they like to learn by using English in shops/CES trains.

Students answered the 28 items in the questionnaire on a Likert scale. This scale made it possible to find out the degree of preferences of students rather than simply determining if a student prefers a certain activity or not. They had four response choices: no, a little, good, and

best which are the same as those in Willing's questionnaire.

Willing found the sets of items in the questionnaire that determined the LSPs of learners by means of a factor analysis. He describes his analysis as follows: "This method looks for sets of responses which have a high correlation with each other. It should be stressed that the procedure is purely mathematical; that is, there is no preconceived pattern which the analysis is attempting to find. Rather the analysis sorts through the possible combinations of responses across all the cases studied in order to discover whether there are any combinations of questions whose response-levels consistently tend to move in parallel" (p. 153). This analysis determined the following sets of items correlating with each other and therefore forming the sets that determine LSP.

Concrete learning style:

(2) In class, I like to listen and use cassettes.

(3) In class, I like to learn by games.

(5) In class, I like to learn by pictures, films, video.

(14) I like to learn English by talking in pairs.

(17) I like to go out and practice English.

(26) At home, I like to learn by using cassettes.

Analytical learning style:

(9) I like the teacher to give us problems to work on.

(12) I like the teacher to let me find my mistakes.

(13) I like to study English by myself (alone).

(18) I like to study grammar.

(24) At home, I like to learn by reading newspapers, etc.

(27) At home, I like to learn by studying English books.

Communicative learning style:

(4) In class, I like to learn by conversations.

(22) I like to learn English words by hearing them.

(25) At home, I like to learn by watching TV in English.

(28) At home, I like to learn by talking to friends in English.

Authority-oriented learning style:

(1) In class, I like to learn by reading.

(6) In class, I want to write everything in my notebook.

(7) In class, I like to have my own textbook.

(8) I like the teacher to explain everything to us.

(18) I like to study grammar.

(21) I like to learn English words by seeing them.

Willing justifies this procedure saying that it is "purely mathematical; that is there is no preconceived pattern which the analysis is attempting to find" (p. 153). This study accepted the validity of Willing's analysis and utilized the same sets of responses to determine LSPs.

English Proficiency Placement Test

Choosing an appropriate standardized test to measure the success of students was one of the most difficult steps. A test which will test many aspects of the language proficiency was needed. However, no test that really measures communicative proficiency was available for the researcher.

The Michigan Placement Test was used to measure the success of participants on discrete point tests. This test includes multiple-choice items on listening, grammar, vocabulary, and reading sections. This study used the last three parts because of problems of appropriateness.

Among the tests that were available, a Michigan Test of English Language Proficiency was administered to 5 students who have the same proficiency level as the participants. This pilot study showed that the test might not measure the level of the participants because it was too difficult for all of the pilot subjects as indicated by their low scores and by their reports. Considering the fact that a difficult test might also cause attrition among volunteer subjects, this test was not selected.

The Michigan Placement Test was chosen for two reasons: to avoid the problem of attrition and to be fair to all students because it has vocabulary, grammar and reading sections.

Procedures

After receiving the permission of the ITU prep school administration, the class lists of prep-school students at ITU were gathered and a stratified random selection described above was completed. All classroom teachers were informed of the study and the roster of participants selected from individual classes was distributed. The researcher also requested

that the teachers inform their students about the date of the test administration the goal of the test and the confidentiality of the research. The teachers also informed students that their Michigan Test scores would be posted without names.

Before the test day, four teachers working at the same university were requested to help the researcher administer the test. They also signed consent forms. The test was administered at two sessions in two different large classrooms in two different buildings where each group of students (i.e. educational level) attend their classes. The two groups took the tests under the same conditions with the presence of the researcher in both test administrations. All the students in the same group took the test in a single classroom in order to avoid double test administration problems.

On the first page of the test and the questionnaire, the students read an explanation (see Appendix B) which also assured them their right to refuse to participate. On the second page (see Appendix C), students were asked to state if they wanted to answer the questionnaire and take the test, and were asked a few background questions (e.g., their educational level, degrees, and sex) in order to be able to determine what type of students refused to answer for purposes of stratification.

To increase the credibility of the responses, the researcher told the students that they could ask anything they wanted to. The students were also assured that they could ask questions in Turkish and receive explanations in Turkish. She also told them the importance of their providing true answers.

Some precautions were taken to maintain the confidentiality of the test results. Students had the same identification number on their LSP questionnaires and their tests. The scores were posted using those numbers and even the researcher did not know what number belonged to which student.

After the test administration, the responses of students were checked and some were discarded for the previously discussed reasons. The tests were scored by an EFL teacher and double-checked by another by means of an answer key provided with the test. A master record of all the numbers and scores were made and a copy was posted in ITU, as was promised to the

students.

Answers of students on the Likert scale were numbered as follows: "no" = 1, "a little" = 2, "good" = 3, and "best" = 4. Then the data were entered into the computer. The completed data was also double-checked by a mathematics department student from another university.

Data Analysis

The data analysis started with a descriptive item by item analysis. At the first stage, the means of all the answers to each question were found for both G and UG students to find out the extent to which each single item is preferred by each group of students. The combined means of the two groups were also calculated.

As the next step, the computer added the numbers in the answers of each student to each learning style set of questions separately (sets are mentioned above). This was done to determine the set of answers with the highest total for each student, which then determined the LSP for each student. These additions showed that most of the students fit into only one learning style. In other words, one student was only not purely and strongly concrete, analytical, and so forth, but also preferred many activities in other sets. Because of this, two different procedures were followed after this procedure.

First, each LSP was divided into three as "strong preference", "weak preference", and "not preferred." This way, the participants were categorized into twelve groups. This was done to be able to have a detailed picture of the preferences of students because categorizing them into four groups of learning styles could only give a general idea of the LSP of the participants. However, this categorization was not appropriate for making statistical analysis to be employed in this study to be able to find the relationship between success and LSP because one student belonged to more than one group.

Therefore, a second categorization was necessary. At this stage, students were categorized into LSP groups according to the highest total in their answers to sets of answers. In this way, each student belonged to one group only. However, there were students who had exactly the same total in two or more sets. Therefore, a fifth group, called the "mixed"

group was added to the study. Despite this, the study still had four final groups because the results showed that there were no communicative learners among the participants.

The same procedure was followed to determine the LSP of G and UG students separately. A one-way ANOVA statistical test was done to find out if there is a significant difference between the LSP of these two groups of learners. As the next step, the means of the scores of the students in the English proficiency test was calculated for each LSP group. The second hypothesis was checked by a one-way ANOVA statistical procedure as well.

In conclusion, the current research studied the LSP of intensive English prep school students at ITU in three steps. First an item by item description of LSP was done and secondly, statistical analyses were run to find out if there is a significant difference between the LSPs of Gs and UGs. Finally, another analysis found the relation between LSP and success.

CHAPTER 4 RESULTS

Introduction

This analytical deductive study aimed at determining the learning style preferences of graduate and undergraduate students at Turkish universities, hypothesizing that there is a significant difference between the LSPs of the two groups of learners. Another hypothesis was that there was no relationship between LSP and success on discrete point English language tests. However, the study first made a detailed analysis of the LSPs of learners at two different educational levels. Then the students were categorized into five LSP groups. Finally, the relationship between success on tests and LSP was determined. The results will be reported and discussed respectively.

Learning Style Preferences of the Two Groups

Description of Learning Style Preferences

Table 2 shows the means of responses of graduate and undergraduate students to each item about classroom activities. In this set of items, learning by reading is not a highly preferred item (M= 2.74) and the mean of UGs is a bit higher (M= 2.75) than that of graduate students (M= 2.72). The item "listening and using cassettes" does not have a high mean (M= 2.58) but the graduates (M= 2.80) like it more than the undergraduates (M= 2.41). The case for the preference mean of learning by games is just the opposite: undergraduates (M= 3.12) prefer games more than the Gs (M= 2.84). The combined mean for this group is 3.00. This result is not surprising when one considers the youth of the UGs.

The combined mean for the preference of conversations is very high (M= 3.27). Graduates believe they learn by conversations (M =3.41) more than UGs do (3.16). Another item with a high mean is the preference of learning by pictures, films, and videos (M= 3.25). Again, Gs prefer this activity more than the UGs.

Writing everything in a notebook is one of the items which neither group likes very much. However, the preference mean of the UG group is really low (M= 2.02) as compared to that of the Gs (M= 2.56). This is an expected result again considering the age difference factor because UGs are usually bored more quickly than the Gs during activities and more impa-

tient. The mean for the item that searches the extent to which learners prefer having their own textbooks is not very high, either (M= 2.66). The generally higher preference of G group (M= 2.86) does not change in this item (M for UGs = 2.51).

Table 2

Preferences for Classroom Learning/Activities

	G		UG		Combined	
	M	SD	M	SD	M	SD
In class, ...						
I like to learn by reading.	2.72	.72	2.75	.79	2.74	.76
I like to listen and use cassettes.	2.80	.85	2.41	.91	2.58	.91
I like to learn by games.	2.84	.79	3.12	.93	3.00	.88
I like to learn by conversations.	3.41	.66	3.16	.87	3.27	.79
I like to learn by pictures, films, video.	3.28	.86	3.24	.81	3.25	.83
I want to write everything in my notebook.	2.56	1.08	2.02	1.02	2.26	1.08
I like to have my own textbook.	2.86	.79	2.51	.94	2.66	.89

Writing everything in the notebook is the least preferred item of all the questions by both groups, but the UG group prefer it even less than the G group. As a general trend, G students have higher means for most of the items than the UG students. Preference for learning by games and reading are the only two classroom activities that UGs prefer more than the other group.

Table 3 illustrates the preferences of students in terms of teacher behaviors. Preparatory school students want their teachers to explain everything to them (M=3.13). Graduate students (M= 3.22) are above the combined mean of this item (M for UGs = 3.06) as well. This may mean that they want their teachers to be a source of information and to be reliable rather than being just a guide to teach how to learn. The mean for the wish for the teacher to give the students problems to work on is (M= 2.80) and the lower preference of undergraduates (M= 2.62) is the case in this

item too (M for Gs = 3.05).

Table 3

Preferences for Teacher Behaviors

	G		UG		Combined	
	M	SD	M	SD	M	SD
I like the teacher ...						
to explain everything to us.	3.22	.82	3.06	.95	3.13	.90
to give us problems to work on.	3.05	.87	2.62	.95	2.80	.94
to help me talk about my interests.	3.12	.67	3.04	.84	3.08	.77
to tell me all my mistakes.	3.24	.79	3.02	.95	3.12	.89
to let me find my mistakes.	2.09	.78	2.89	.94	2.98	.88
I like to study English by myself.	3.09	.94	2.19	1.02	2.15	.98

Both Gs and UGs want their teachers to help them talk about their interests (M= 3.08). For this item, the deviance from the mean is not high for either group although again Gs (M= 3.12) have a higher preference (M= 3.04 for UGs). The higher preference rates of Gs (M=3.24) does not change for the next item either (M for UGs =3.02). The combined mean for expecting the teacher to tell the students all their mistakes is 3.12

There is not a big difference between the preference of the two groups in terms of wanting the teacher to let the students find their own mistakes (M for UGs = 2.89 and M for Gs = 3.09). The combined mean for this item is 2.98. Prep school students do not like to work by themselves (M = 2.15). However, UGs (M= 2.19) prefer it a bit more than the Gs (2.09).

G students have higher means to four of the items than the UGs among this group of items. The highest preference among the G students is that they want their teachers to tell them all their mistakes. On the other hand, teacher's explanation to everything is the most preferred behavior of the UG students.

The next set of items (see Table 4) show the type of classroom

participation the learners prefer. As it is the case in most of the items in the questionnaire, Gs like learning English by talking in pairs (M= 2.94) a bit more than the other group (M= 2.91). However, neither group is very below or above the combined mean (M= 2.92). Prep school students like learning in small groups but not very much (M= 2.85). UGs have a higher preference mean (M= 2.87) than the Gs (M= 2.82). Gs have a higher preference (M= 2.62) than the UGs (M= 2.54) for the next item: learning English with the whole class. The combined mean for this item is 2.57.

Table 4

Preferences for Participation Type in Learning

	G		UG		Combined	
	M	SD	M	SD	M	SD
I like to learn English ...						
by talking in pairs.	2.94	.80	2.91	.93	2.92	.88
in a small group.	2.82	.91	2.87	.84	2.85	.87
with the whole class.	2.62	.10	2.54	.92	2.57	.95
I like to go out and practice English.	3.49	.77	3.60	.72	3.55	.74

The last item in the set of means for participation asks the students the extent to which they like to go out and practice English. The means of this item reveals an interesting fact (M for Gs = 3.49, M for UGs 3.60, and the combined M= 3.55) for two reasons. First, the teachers are not officially allowed to take their students out for them to have practice at ITU as well as in other university prep schools. In addition to this, students cannot practice their English everywhere in Turkey because Turkish is spoken in Turkey. Students can practice only with tourists or some other English speakers. This might be what makes this item attractive to students. This result is also interesting because statistical analyses that will be discussed in the next section have shown that there are no communicative learners among the participants and this item belongs to the set of questions that determine communicative LSP.

The next group of questions ask the students which aspects of language learning they want to focus on (Table 5). Studying grammar, although many teachers might expect the engineering students to prefer because they have analytical ways of thinking, has a combined mean of 2.99, which is not very high. However, the fact that Gs have a mean of 3.19 may support that expectation because they are already engineers (M for UGs = 2.84).

Table 5

Preferences for Language Aspects to be Emphasized

	G		UG		Combined	
	M	SD	M	SD	M	SD
I like to ...						
study grammar.	3.19	.74	2.84	.90	2.99	.85
learn many new words.	3.29	.76	3.26	.73	3.27	.74
practice the sounds and pronunciation.	3.33	.77	2.99	.91	3.14	.87

Learning new words is a high preference (M= 3.27) and the Gs are a bit above the mean (M= 3.29) whereas UGs are a bit below the mean (M= 3.26). Practicing sounds and pronunciation has a high mean as well (M= 3.14). The mean for the G group is 3.33 and the one for the UGs is 2.99. Again Gs have a higher preference than the UGs.

All three items included in Table 5 are highly preferred by G students and again their means are higher than that of the UG students. UGs prefer learning new words the most among the three items. The means of the last item should be significant to the curriculum developers in ITU because practicing pronunciation is not emphasized in ITU prep school at all. The graduates have a mean of 2.85 whereas the UGs have a mean of 2.89.

Table 6 reports the mode by which students prefer to learn. Gs prefer to learn words by seeing them (M= 2.91) more than the UGs do (M= 2.82). The combined mean for this item is 2.86, which is almost the same as the combined preference mean for the next item: learning words by

hearing them (M= 2.87).

Table 6

Preference Means for Sensory Modes

	G		UG		Combined	
	M	SD	M	SD	M	SD
I like to learn English words by ...						
seeing them.	2.91	.85	2.82	.82	2.86	.84
hearing them.	2.85	.85	2.89	.91	2.87	.88
doing something.	3.64	.62	3.33	.85	3.46	.77

Learning by doing is a high preference of both groups (M= 3.46), whereas it is the highest preference of all items in the questionnaire by graduate students (M= 3.64) in addition to being a highly rated item by the UG group (M= 3.33). In general, the means of both groups are very similar in this set of items but Gs have higher means in two of the three items as is the case in other group of questions. This may indicate that students need activities and materials that will make all those three senses function to be able to learn new things.

The means for the ways students like to study outside the classroom are reported in Table 7. These data show that the means of Gs (M= 2.59) and UGs (M= 2.57) are almost the same for the first item: learning by reading newspapers,etc. The combined mean for this item is 2.58. Students prefer learning by watching TV at home more than that (Combined M = 2.82). The mean for Gs is (M= 2.77) while the one for UGs is (M= 2.86).

Students do not have a very high preference for learning by the use of cassettes. G students prefer learning by the use of cassettes (2.56) more than UGs do (M= 2.38). This is not a surprising result, taking into consideration the negative attitudes of students toward listening activities in ITU prep classes. Studying English books is a high preference among Gs (M= 3.18) but is a lower preference among UGs (M= 2.75; combined M

= 2.82). Learning by talking to friends in English is a high preference in both groups (M for Gs = 3.14, M for UGs = 3.15).

Table 7

Means for Out-of-Class Studies

	G		UG		Combined	
	M	SD	M	SD	M	SD
At home, I like to learn by ...						
reading newspapers, etc.	2.59	.98	2.57	1.02	2.58	.99
by watching TV in English.	2.77	.93	2.86	1.00	2.82	.97
using cassettes.	2.56	.93	2.38	.94	2.46	.94
studying English books.	3.18	.68	2.75	.83	2.94	.79
talking to friends in English.	3.14	.96	3.15	1.08	3.15	1.02

Among these five items, learning by talking to friends is the most preferred by both groups. This is another item mean that does not fit the finding that there are no communicative learners among the participants. It is also contradictory with the ideas of many teachers who think that students do not want to practice their English.

To generalize, we can say that learning English by going out and practicing English is the highest preference among intensive English prep school students. Learning new words, learning by conversations, and talking to friends in English, and learning by doing something are also highly ranked. In addition to these, the students expect their teachers to explain all their mistakes to them. On the other hand, among the least preferred items are writing everything in the notebook and studying alone.

Although some items are less preferred, there is no one item with a mean lower than 2. Also, although some items are not mentioned as having the highest means, this does not indicate that they are not highly preferred. There are many items with means like 2.90, and 3.00, which can be interpreted as indicating "good" on the Likert scale of the questionnaire. These two factors may indicate that students do not have a completely

negative attitude toward any of the items in the questionnaire. They may also mean that students like variety in learning English.

A General Comparison of the LSP Results with Those of the Willing Study

The study Willing did in EMMYS (Australian Adult Migrant Education Service) was replicated in the survey part of this study. Very interestingly, except for one, all of the items that have the highest and lowest ranks in the Willing study have the highest and lowest ranks in the current study as well. For example, learning by conversations, and by pictures, films and video, and also the wish for the teacher to explain everything and tell the students all their mistakes are the items that are the highest preferences in the Willing study as well. The least preferred item in the Willing study is studying alone, which is also the case in the current study, and it has even a lower preference in the EMMYS study.

There are only two major differences between the results of the two studies. Going out and practicing is the highest preference in the current study whereas it is only one of the highly preferred ones in the EMMYS survey. The second major difference is that the means are generally higher in the Willing study.

This similarity might be very surprising, considering the fact that learners at ITU are all engineering students or are already engineers and are all highly educated. The participants in the EMMYS program, on the other hand, have various educational backgrounds. Also, the participants in the current study are a homogenous group as compared to the those who were immigrants from many different cultures in the Willing study. These results do not support the conclusions (Reid, 1987; Willing, 1987) that learners from different cultures have different LSP. However, the comparison results may be different if a detailed comparison study is done to find the cultural differences.

LSP Categories

The data were categorized in order to be able to find the statistical significance of the LSP categories and to be able to analyze the relationship between LSP and success in tests. The criteria used to categorize the participants into LSP groups was by the highest preference total in their responses to each set of LSP items. For example, a student whose total is

20 in the set items that determines concrete LSP, 18 in analytical, 16 in communicative, and 15 in authority-oriented, was accepted as a concrete learner. As a result, each student was assigned to only one group despite the fact that (s)he had other LSPs as well. However, some students had exactly the same total in two or more sets. Consequently, a fifth group, called the "mixed" group was added to the study.

According to this categorization, we can conclude ITU students have one major learning style. Results showed that no ITU prep students are communicative learners. Moreover, 50.7% of all the participants were concrete learners, 21.35% were authority oriented, 14.7% were mixed and 13.3% were analytical. This is not somewhat surprising since one would normally expect that engineering students would be mainly analytical. In short, we can conclude that the major LSP of ITU students is concrete learning style.

The Major Learning Style in the Study

Willing describes concrete learners in the following way: "these people use very direct means of taking in and processing information ('absorption'). They are also people-oriented, though in a spontaneous, unpremeditated way (e.g. 'games,' 'excursions' or in close interaction (e.g. 'pairs'), not in terms of organized, pointed class 'conversation'" (p. 155). The second part of his definition is supported by the descriptive item-by-item analysis the current study did as well. These results showed that talking to friends is a high preference among ITU students. Willing also cites the definition of concrete learners used by Kolb (1976). Kolb's definition emphasizes that these learners are interested in people and are imaginative and emotional. They are usually specialized in the arts. This is a very interesting conclusion because all of the subjects in the current study were in engineering or hard science departments yet 50% of them are concrete learners.

Willing also cites the definition of Knowles (1982), which describes concrete learners as "immediate, realistic, spontaneous, risk-takers, performers, want constant change of pace and variety, routine is deadly and so is paper and pencil work, prefer verbal/visual, games, media, want to be entertained, need physical involvement in learning" (p. 155). Most of the

parts of this definition are also supported by the descriptive LSP analysis of this study: It has been shown that ITU students do not like writing everything in their notebooks; prefer a variety of activities; like games; and like to learn by doing.

The percentages in the Willing study are different: 40% of the learners are communicative, 30% authority-oriented, 10% analytical, 10% concrete, and 10% mixed. His findings are very easy to interpret because his participants were all integratively motivated in an ESL setting trying to assimilate with a culture and to communicate with native speakers every day.

Statistical Analysis of the LSP of the Two Groups

Table 8 shows the distribution of each LSP for graduate and undergraduate groups as well as the total.

Table 8

Distribution of LSPs for Preparatory Students (M)

	Preparatory Students (N= 152)					
	G (N= 66)		UG (N= 86)		Both	
	M	SD	M	SD	M	SD
Concrete (a)	.44	.50	.56	.49	.51	.50
Analytical (b)	.14	.35	.13	.34	.13	.34
Authority-Or. (c)	.26	.44	.20	.40	.22	.42
Communicative	No cases		-		-	

a) f (1,150)= 2.11

b) f (1,150)= .02

c) f (1,150)= .77

Statistical analyses of these means showed that there is no significant difference between the LSPs of graduate and undergraduate students. An analysis of variance on the preference means (critical significance value was accepted as $p < .05$ for all statistical calculations) showed that

in concrete learning style, there is not a significant difference between the two groups (f (1, 150)= 2.11, p= .99). No significance was found between the two groups, in the analytical learning style analysis, either (f (1, 150)= .02, p= .80). The analysis of authority-oriented learning style also showed that there is not a significant difference between the two groups of learners (f (1, 150)= .77, p= .41). In conclusion, G and UG students are not significantly different in terms of their LSPs. These findings rejected the first hypothesis in the study: There are significant differences between the LSPs of graduate and undergraduate students at Turkish universities.

Analysis of the Relationship Between LSP and Test Performance

The second hypothesis was that there was no relationship between success on tests and LSP. In order to determine this relationship, the means of the test scores of students in each LSP were calculated (Table 9).

Table 9

Language Test Scores of LSP Groups

	Preparatory Students (N= 152)					
	G (N= 66)		UG (N= 86)		Both	
LSP	M	SD	M	SD	M	SD
Concrete	47.00	11.98	40.40	11.81	42.88	12.23
Analytical	46.89	13.54	48.36	13.28	47.70	13.06
Authority-or.	44.71	9.01	42.40	14.57	43.56	11.99
Communicative	no cases		-		-	
Total	46.27	11.26	42	12.80	43.79	12.32

A second analysis of variance was used to determine the relationship between LSP and success. The result of this analysis also showed that no two groups are significantly different from each other at the .05 level (f= 1.23, p= .82). The means of the test results of LSP groups are shown in Table 6. This result supported the second hypothesis: There is no

relationship between learning styles and success on discrete point language tests.

The same statistical tests were run to find out if there is a relationship between the LSP and success within the G and UG groups. These calculations also showed that there is no relationship between success and LSP even when the two groups are dealt with separately. The result of the One-way ANOVA done for the UG group showed that $f(2, 73) = 1.78$, $p = .57$). The calculations for the G group showed that $f(2, 52) = .23$, $p = 33$).

Conclusion

In conclusion, there are no significant differences between the LSPs of graduate and undergraduate Turkish learners of English. Another conclusion is that there is no significant relationship between learning styles and test performance, at least on a discrete-point test such as the Michigan Placement Test.

CHAPTER 5 CONCLUSIONS

Summary of the Study

This study researched into the learning style preferences (LSPs) of preparatory school students at Turkish universities, accepting LSP as individually different ways students prefer to learn rather than as abilities that contribute to success. The LSP of students were analyzed at three different steps. An item-by-item analysis provided descriptive results for the LSPs of the two groups and their combined LSP. Secondly, statistical analyses were performed to find out if there is a significant difference between the LSP of graduate and undergraduate students. Finally, a statistical procedure was run to find out if there is a relationship between LSP and test performance.

The first hypothesis of the study was that graduate and undergraduate students have significantly different LSPs. This hypothesis was not supported. The second hypothesis expected that there was no relationship between LSPs and success in tests. This hypothesis was supported by the results.

Pedagogical Implications

Research findings (Nunan, 1988) have shown that what students believe to be helpful for their own learning and what teachers think is helpful to students do not often match. This study has not surveyed teaching styles and teachers' perceptions of the learning of their students. However, almost all teachers at ITU complain that their style do not fit that of their students or that they cannot motivate their students to the extent they would like to. These results may increase the awareness of the perceived needs and preferences of students, and thus increase the motivation of both the students and teachers. Also, an increased awareness of teachers of the preferences of students may lead to more informed decisions on the side of the teachers when they are selecting methods and activities.

All universities except ITU instruct their G and UG students in the same classes in their intensive English preparatory schools in Turkey. The results of this study showed that there is no need to design separate programs, curriculum and syllabus to account for each group's LSP. Such a separation may be done for other reasons, such as face value, but not LSP.

The descriptive analysis of the questionnaire items showed that students prefer to learn English through a variety of activities and learning styles. Also, the first LSP categorization (see Chapter 3 for explanation) also showed that each student had more than one preference and thus, that most of the students are multiple-style learners. This means that students need multiple ways to be able to acquire knowledge. This provides a reference for teachers to use when they are selecting their strategies and methods. If the styles of the teachers do not match the styles of the learners, an awareness of this will help the teachers to adjust the styles of learners.

Despite the fact that statistical analyses showed that there is not a significant difference between the LSP of G and UG students, the descriptive item by item analysis showed that Gs have higher preference means than UGs for most of the items. This may guide the G prep school teachers to use a wider variety of teaching methods.

The part of the questionnaire that asks the students their preferences for teacher behaviors provides us with some implications. First of all, the students want their teachers to explain everything to them. This is not a practice most teachers would approve of. However, an awareness of this expectation on the part of students may help the teachers determine the right balance between themselves and the students. The students also want the teachers to tell them all their mistakes. This is also an expectation which many teacher would not like to fulfill. However, the psychological comfort of the students is as important as the quality of the instruction itself. So this finding must be taken seriously as well.

There are a few implications that curriculum developers and the administrators should take into consideration. Going out and practicing English is the highest preference and practicing sounds and pronunciation is one of the high preferences despite the fact that teachers are not allowed to take students out for practice and pronunciation is not taken seriously at all. Unfortunately, students do not have many opportunities to go out and practice because they are in an EFL setting. However, this information can still guide curriculum developers. At least, they can provide the students with more interaction with native speakers. Another

implication for the prep school administrations might be to provide students with different English books because a high preference among the learners is studying English books.

On the day this test was administered, some UG students left the test very early while the G students tried hard until the last moment and responded to both the questionnaire and the test very carefully. This might imply that UG students do not take the study as seriously as G students do and thus became bored with the tests. UGs might not reveal their actual success level on tests, which is an issue that should always be taken into consideration by researchers. Or this may also be due to the fact that UG students are quicker in deciding than Gs are. Then this might again be an issue that curriculum developers should take into account and might be a good reason to educate G and UG students separately.

Evaluation of the Study

Unfortunately, the detailed LSP categories first attempted in this study did not allow for the use of any statistical procedures selected. The statistics in this study assigned each student to only one LSP group. Actually, degrees of preference of most of the students for different LSP were very similar to each other. However, additional preferences could not be taken into account in the analyses. Therefore, the extent to which we can describe the LSP of G and UG groups statistically may be limited. For example, there are no communicative learners among the sample group but going out and practicing English is the highest preference.

Some researchers such as Green (in press) report that students like the activities teachers think they do not. Actually, the results of this study provide similar implications but determining the teaching styles was not among the foci of this study. More pedagogical implications might have been found if teacher styles had been determined as well. Whether teaching and learning styles match is an important question in education.

The fact that some UG students left the classroom very early whereas the G students tried hard until the last moment and responded to both the questionnaire and the test very carefully may be a factor that effected the results, although the responses of those who left during the first ten minutes were not included in the data.

Implications for Further Research

This research did not support the conclusion (Reid, 1987) that graduate and undergraduate students have significantly different LSP. This might not mean that there are two controversial results but the reason for the two different conclusions may be the fact that the LSP definition made in the two studies are not the same. Willing (1987), whose definition this study used, accepts the sensory modes Reid defines as LSP as only one part of LSP (See Figure 1 in Chapter 2). Further research may study the differences between the two definitions and inventories used in the two studies and make a comparison between the two. The reason for the difference might also be the two different settings where the two studies were done, one being an ESL and the other being an EFL setting.

The preference means for items in the LSP questionnaire had similarities with the Willing Study whose participants were from different cultures and were in an EFL setting. Why do the two groups of participants: one including learners from various cultures and various educational backgrounds, and the other including a homogeneous well-educated group of learners have similar learning styles? This may be due to the fact that the inventory of Willing is a very general one rather than researching LSP specific to academic environments. There might have been differences among the preferences of the two groups of participants if a questionnaire that determines preferences of students in academic settings had been administered. Further research is needed.

Another implication for further research is the need to find out the teaching styles and see if they match the student LSP. This may give a good picture of the adjustments teachers should make when teaching and therefore, increase motivation.

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Appendix A

Learning Style Preference Questionnaire

Please **circle** only one answer as in the example below. Give your answers **quickly.** Do not erase after you mark.

Example:

I like to learn when I am listening to music no a little good best

In class, ...

1. I like to learn by reading. no a little good best
2. I like to listen and use cassettes. no a little good best
3. I like to learn by games. no a little good best
4. I like to learn by conversations. no a little good best
5. I like to learn by pictures, films, video. no a little good best
6. I want to write everything in my notebook. no a little good best
7. I like to have my own textbook. no a little good best

I like the teacher .....

8. to explain everything to us. no a little good best
9. to give us problems to work on. no a little good best
10. to help me talk about my interests. no a little good best
11. to tell me all my mistakes. no a little good best
12. to let me find my mistakes. no a little good best
13. I like to study English by myself (alone). no a little good best

I like to learn English .....

14. by talking in pairs.	no	a little	good	best
15. in a small group.	no	a little	good	best
16. with the whole class.	no	a little	good	best
17. I like to go out and practice English	no	a little	good	best

I like to .....

8. study grammar.	no	a little	good	best
19. learn many new words.	no	a little	good	best
20. practice the sounds and pronunciation.	no	a little	good	best

I like to learn English words by .....

21. seeing them.	no	a little	good	best
22. hearing them.	no	a little	good	best
23. doing something.	no	a little	good	best

At home, I like to learn by .....

24. reading newspapers, etc.	no	a little	good	best
25. by watching TV in English.	no	a little	good	best
26. using cassettes.	no	a little	good	best
27. studying English books.	no	a little	good	best
28. talking to friends in English.	no	a little	good	best

Appendix B

Instructions for the Proficiency Test and the LSP Questionnaire

Please do not mark anything before you read the following instructions:

On the following pages, you are asked to answer two questionnaires and a test. The grade you will get in the test will **not** be a part of your official grade. The results will be used in a study which identifies the ways I.T.U. prep school students like to learn and will help the teachers adjust to your styles. You have been selected randomly. The information you give will be confidential. Your participation is valuable but you have the right to refuse to answer. If so, please indicate **why** on the following form.

The first questionnaire asks you to give some information about yourself. The second questionnaire will help you identify the way you learn. There are no correct answers because people learn languages in different ways. For example, some people prefer to learn by having conversations with their friends while others learn by themselves etc. So read each statement carefully and respond to the way **they apply to your study of English.**

The third part is a test. You **do not have to** write your name on any page. If you would like to learn the result of your test at a later time, make a note of your number at the top of this page. The results of the test only by these numbers will be posted on the student notice board at a later time. No one, including your teachers will know your grade. Please mark your answers to the test on the **Answer Sheet** page.

Appendix C

Background Information Page on the Test

1.0 Sex: Female _____ Male _____

2.0 Graduate _____ Undergraduate _____

3.0 Prep level: Upper____ Lower____

4.0 Do you want to answer the two questionnaires and the test below?

Yes___ No___

If you do not, please state why.

I do not want to answer these questionnaires because_____

_____.

Questionnaire 1

4.0 Name the foreign languages you know other than English

1._____ a little___ well___ very well___

2._____ a little___ well___ very well___

3._____ a little___ well___ very well___

5.0 How long have you been studying English?____years ____months

Where have you studied English? For how long?

5.1 a. Elementary school yes___ no___ ___years ___months

5.2 b. Secondary school yes___ no___ ___years ___months

5.3 c. High school yes___ no___ ___years ___months

5.4 d. Univ. prep school ___months

5.5 e. Other institutions or schools

yes___ no___ ___years ___months

Appendix D

Means for Items in LSP Categories

Table 11

Concrete LSP Item Set

	Combined		G		UG	
	M	SD	*M*	SD	*M*	SD
In class, I like to...						
listen and use cassettes.	2.58	.91	2.80	.85	2.41	.91
learn by games.	3.00	.88	2.84	.79	3.12	.93
learn by pictures, films, video.	3.25	.83	3.28	.86	3.24	.81
I like to learn English by talking in pairs.	2.92	.88	2.94	.80	2.91	.93
I like to go out and practice English.	3.55	.74	3.49	.77	3.60	.72
At home, I like to learn by using cassettes.	2.46	.94	2.56	.93	2.38	.94

Table 12

Analytical LSP Item Set

	Combined		G		UG	
	M	SD	M	SD	M	SD
I like the teacher ...						
to give us problems to work on.	2.80	.94	3.05	.87	2.62	.95
to let me find my mistakes.	2.98	.88	2.09	.78	2.89	.94
I like to ...						
study English by myself.	2.15	.98	2.09	.94	2.19	1.02
study grammar.	2.99	.85	3.19	.74	2.84	.90
At home, I like to learn by						
reading newspapers, etc.	2.58	.99	2.59	.98	2.57	1.02
studying English books.	2.94	.79	3.18	.68	2.75	.83

Table 13

Communicative LSP Item Set

	Combined		G		UG	
	M	SD	M	SD	M	SD
In class, I like to ...						
learn by conversations.	3.27	.79	3.41	.66	3.16	.87
I like to learn English words by hearing them.	2.87	.88	2.85	.85	2.89	.91
At home, I like to learn by ...						
by watching TV in English.	2.82	.97	2.77	.93	2.86	1.00
talking to friends in English.	3.15	1.02	3.14	.96	3.15	1.08

Table 14

Authority-oriented LSP Item Set

	Combined		G		UG	
	M	SD	M	SD	M	SD
In class,						
I like to learn by reading.	2.74	.76	2.72	.72	2.75	.79
I want to write everything in my notebook.	2.26	1.08	2.56	1.08	2.02	1.02
I like to have my own textbook.	2.66	.89	2.86	.79	2.51	.94
I like the teacher to explain everything to us.	3.13	.90	3.22	.82	3.06	.95
I like to study grammar.	2.99	.85	3.19	.74	2.84	.90
I like to learn English words by seeing them.	2.86	.84	2.91	.85	2.82	.82